THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 30. JULY 28, 1945 VOL. 57.

The Veterinary Aspect of the Purchase and Sale of Dairy Cattle*

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The rôle of the veterinary surgeon in connection with the purchase and sale of dairy cattle can be briefly summed up in the following words:—"He can assist the honest vendor, guide the purchaser and at all times protect the animal." It is well to recall, then, who are the sellers of dairy cattle and in what way we can be of service to them. Breeders of both pedigree and non-pedigree cattle from time to time dispose of the products of the breeder's art, namely, the young stock bull, the heifer or the cow which are in turn to augment other herds already established or to form the nucleus of new herds. Another type of vendor is the breeder or the rearer of pure or cross-bred dairy stock who sells cows either immediately before or immediately after calving, these being purchased by dairy men whose chief interest in them lies in their potentialities as milk yielders. The third type of vendor, much less desirable than the two former, is the one whose sales consist chiefly of the less profitable or less healthy animals culled from his herd. Finally, the fourth and perhaps least desirable of all is the dealer whose chief interest is the extraction of a profit from sale of cattle of all descriptions and of all stages of productivity or health. In between these different types of vendors are many intermediate types who perhaps combine some of the characteristics of each. We must not forget, of course, the vendor who on retirement or through his executors on death may dispose of his dairy stock in its entirety, but relatively this type of sale is in the minority.

In what way can the veterinary surgeon be of assistance to these various types of vendors in the sale of their cattle? We can submit their cattle to various tests to determine their freedom from such diseases as tuberculosis, brucellosis and mastitis. We can, by clinical examination, exclude certain diseases which one can recognise clinically, such as mastitis in its clinical forms and those indurations of the udder which are its sequelae, and we can in the majority of cases give authoritative information as to their state of pregnancy. In connection with the issue of certificates of tuberculin or other tests it is in my view only the man who has actually carried out the test and who has himself interpreted the result who is in a position rightly to issue a certificate setting forth those results. A second point arises here in that an animal which has passed one and only one test cannot with any degree of safety be regarded as free from the relative diseases, and it is in my opinion utterly unsound to countenance the sale, chiefly by dealers or pseudo-dealers, of animals which have passed, for instance only one tuberculin test. Where animals are sold with a certificate of having passed any test it should be that of a test which has been carried out within a comparatively short time before sale. Every year large numbers of animals from attested herds are sold, but in many cases the last test of the herds from which they originate was carried out many months prior to the date of sale, and in the meantime infection may have crept into the herd and the percentage of potential reactors then in the herd may be considerable. Furthermore, there are in many attested herds animals which, as a result of the present method of interpretation of the tuberculin test, have passed on a mathematical basis only and are of the class one might describe as "near misses": owners in most cases take an early opportunity of disposing of these animals, and there is little wonder that at subsequent tests on the purchaser's premises a number of them are rejected.

In connection with dispersal sales of whole herds it would be of value both to vendor and purchaser if a disease history of the herd could in all cases be supplied by the attendant veterinary surgeon and submitted to intended purchasers.

Regarding the purchase of dairy cattle, it is by means of clinical examination that the veterinary surgeon can best advise his client as to the suitability and the health of the selected animal or animals and, as in the case of sales by auction time available for conducting these clinical examinations is strictly limited, the veterinary surgeon must be careful in drafting his certificate to make it clear that his opinion is based on clinical examination only.

The services of the profession are utilised in the examination or inspection of cattle exposed for sale in markets. Here the object is to prevent dissemination of scheduled diseases, but its value is limited by the lack of facilities offered at most markets for any but the most cursory examination of stock. It is high time that the profession as a whole should refuse to bear the responsibility of examining cattle where the facilities for such examination are lacking. The powers of veterinary inspectors in the inspection of animals exposed for sale at cattle markets should be considerably widened and fuller discretionary latitude accorded to them. It is a fact that clinical cases of John's disease, mastitis, and all external parasitic conditions, such as ring-worm, may be exposed for sale by an owner with impunity except in a few markets where local bye-laws give to the veterinary inspector powers to reject such animals.

In connection with the sale of newly calved cows, our profession may have views to express as to the desirability of offering for sale, often under adverse conditions, cattle which have not yet recovered from parturition. One can see no reason whatsoever why dairy cows need be purchased within a day or two of calving and, although it will be a lesson difficult to teach, we might expend some energy in trying to educate both vendors and purchasers to the desirability of allowing dairy cows to recover their normal vitality before being exposed to the many adverse conditions associated with transport to and from markets and repeated handling and promiscuous contact at a time when their bodily resistance is very far from being at its peak. There is no good reason why dairy cattle intended for sale at markets should not be brought to the market the day previous to sale, milked out at a fixed time on the evening prior to sale and in the presence of reliable stewards, so that on the following morning they would be exposed for sale in a natural and rested condition, and the pernicious practice of over stocking of the udder would automatically disappear. For this purpose it would be necessary, of course, for many cattle markets to be so reconstructed that adequate accommodation for reception of animals and their overnight lairage was available.

Under the same heading one may discuss the question of the sale of dairy heifer calves which are the future generation of milk yielders. The seeds of many illnesses are sown at the time when these calves are exposed for sale in markets; infection is contracted—white scours so often have their origin in calves weakened by exposure. If a calf is worth rearing for dairy purposes it is certainly worth the little extra cost and trouble involved in giving it a start on the farm on which it was born before submitting it to the adverse influences of a collective market.

In the post war years there is no doubt that the repair or perhaps reconstruction of many markets will be undertaken, and one trusts that the profession will be consulted regarding improvements which may be effected. While the question of hygiene enters largely into the methods of construction of markets, one must not lose sight of the need for providing the utmost comfort and protection from the elements both for animals and for vendors and purchasers attending markets. All too often money which might be better expended in the provision of comfortable premises is wasted on the erection of mazes of iron-work.

It has always seemed strange to me that no large firm of auctioneers has yet seen the wisdom of including in its administration a veterinary surgeon and one hopes that the time will come when the profession will have a much larger say in the conditions under which animals are sold and in the conditions attached to warranties and trials, so that conditions of sale which at many markets are laid down without any special regard to the difficulties of or length of time required for diagnosis, either positive or negative, will be set on a better footing and so obviate the need for much confused litigation. It would serve a very useful purpose if some Division of the N.V.M.A. could draw up a scheme of sale conditions for dairy cattle which would be both workable and consistent with the scope and the limitations of veterinary examination of dairy cattle on behalf of both vendor and purchaser.

* Address to the Western Counties Division, N.V.M.A., at Exeter, March 14th, 1945.

METABOLISM OF D.D.T.

When ingested in relatively large amounts, D.D.T. is toxic to experimental animals, and it is of interest to understand its metabolic fate. One metabolic product present in the urine of rabbits following the ingestion of D.D.T. in olive oil solution has been isolated and identified (*Pub. Health Rep.* 1945, **60**, 66). This compound is di(*p*-chlorophenyl) acetic acid. In an attempt to throw some light on the mechanisms of the transformations of D.D.T. *in vivo*, the degradation of D.D.T. *in vitro* was studied in detail, and it seems possible that the degradation of D.D.T. *in vivo* parallels the degradation *in vitro*.—*Pharm. J.*

Comparative Intradermal Tuberculin Test and Post-mortem Examination of 50 Cows.

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At the May general meeting of the Veterinary Medical Association of Ireland, 1944, I gave a demonstration of the comparative tuberculin test and the American method (caudal fold plus vulva) using P.P.D. tuberculin. The report of this demonstration is given in the *Veterinary Record* of October 21st, 1944, page 399.

Subsequently I had an opportunity of testing four or five cows per week purchased by a local butcher and subjecting them to *post-mortem* examination immediately after completion of the test. A total of 50 animals was thus examined.

The reactions and *post-mortem* examinations were seen by some of my colleagues in the Dublin Corporation.

The results are summarised in the table and are self-explanatory. The following observations are necessary in regard to certain individuals.

Cow No. 10.—I regarded this animal as a reactor because I considered there was diffusion at the neck site. It is evident that if increase in measurements alone is taken into account this animal would be classed as a non-reactor. The lesions found at *post-mortem* examination were subjected to a biological test with negative results. I am satisfied, therefore, that this animal was not tuberculous and that I was too strict when I classed her as a reactor.

Cow No. 40.—This animal gave a clear-cut response to tuberculin. Despite a careful search only three small specks were found in the mesenteric glands. Unfortunately no biological test was carried out in this case so that there is still an element of doubt as to whether the condition was tuberculous. In fact, this is the only cow of the whole 50 where there was an unmistakable reaction to tuberculin and in which tuberculosis was not definitely proved.

Cow No. 47.—Although there was a rise of 4 mm. in the mammalian neck site, I did not regard this cow as a reactor, especially as the vulva site was quite negative.

Table

Experiment carried out with Weybridge P.P.D. Avian and Mammalian Tuberculins. Mammalian P.P.D. Tuberculin (Weybridge) was also used in Caudal Fold and Vulva Sites. Single I.D. Inoculations

Reference No. of Cow	Avian Tuberculin			Mammalian Tuberculin			Caudal Fold		Vulva		Observation	*Post-mortem* Examination
	Time of Injection	48th Hour	96th Hour	Time of Injection	48th Hour	96th Hour	48th Hour	96th Hour	48th Hour	96th Hour		
1	8	9	8	8	9	8	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
2	8	9	10	8	9	9	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
3	9	10	12	8	19	16	Positive	Positive (less marked)	Positive, swelling and typical discoloration	Positive, swelling and discoloration less marked	Mammalian neck site sore at 48th hour, not sore at 96th hour	Tuberculosis in lung substance and in bronchial mediastinal and mesenteric lymphatic glands
4	9	12	13	9	20	19	Positive	Positive (less marked)	Positive, swelling and typical discoloration	Positive, swelling and discoloration less marked	Mammalian neck site sore at 48th hour, not sore at 96th hour	Two lesions found in mesenteric lymphatic glands
5	9	9	10	9	9	13	Negative	Doubtful	Positive, swelling and typical discoloration	Positive. same as 48th hour	Mammalian neck site did not come up till 96th hour and not sore	Lesions of tuberculosis in lung substance in mediastinal and mesenteric lymphatic glands
6	6	8	9	6	8	9	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
7	8	8	9	8	15	16	Positive	Positive	Positive, swelling and typical discoloration	Positive, same as 48th hour, not so indurated	Mammalian neck site very diffuse and sore at 48th hour, not so sore at 96th hour	Lesion of tuberculosis in lung substance and in pharyngeal, bronchial, mediastinal, mesenteric lymphatic glands
8	8	9	8	8	8	8	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
9	8	8	8	7	7	8	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
10	8	8	8	8	9	11	Negative	Negative	Negative	Negative	Mammalian neck site very sore at 96th hour, diffusion present, classed as reactor	Three minute specks suspicious of tuberculosis in mesenteric glands, lesions submitted to animal inoculation with negative result
11	7	8	15	6	10	13	Slight swelling	Positive, swelling very marked	Swelling and induration noticeable	Same as 48th hour	Black cow with black vulva and so discoloration masked	Lesion of tuberculosis in both pharyngeals and right bronchial lymphatic glands
12	9	10	19	9	14	19	Positive	Positive	Typical reactor with discoloration	Discoloration less marked	Both neck sites sore at 48th hour and 96th hour	Two lesions of tuberculosis in the anterior mediastinal glands. Typed and found bovine type
13	7	16	22	7	20	22	Very big reaction	Large reaction	Big swelling and discoloration	Swelling and necrosis	Neck sites painful	Extensive lesions of tuberculosis both sides pleura, bronchial mediastinal and mesenteric affected
14	8	18	22	8	20	20	Positive	Positive	Positive, swelling and discoloration	Slightly less than 48th hour	Positive in all sites	Tuberculosis in pharyngeal, mediastinal and mesenteric glands
15	7	8	9	7	8	9	Negative	Negative	Slight swelling discoloration	Same as 48th hour	Diffusion avian site 96th hour	No evidence of tuberculosis
16	7	7	8	7	8	12	Negative	Slight thickening	Positive, swelling and discoloration	Positive but less marked	Mammalian neck site painful 96th	Old calcified lesion of tuberculosis in anterior mediastinal gland
17	6	7	9	7	14	13	Positive	Big reaction	Positive	Large swelling	No discoloration of vulva	Lesion of tuberculosis in posterior mediastinal gland
18	7	7	10	7	12	12	Slight swelling	Positive	Swelling and typical discoloration	Slightly less than 48th hour	—	Lesion of tuberculosis in mediastinal and mesenteric glands
19	8	11	11	8	14	13	Positive	Positive	Big swelling, discoloration slight	No discoloration, swelling much less	Cow dull	Extensive generalised tuberculosis
20	6	7	6	6	6	6	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
21	7	8	11	8	9	11	Negative	Negative	Negative	Negative	No diffusion in neck sites	No evidence of tuberculosis (classed as non-reactor)
22	9	20	21	9	25	26	Positive	Positive	Swelling and discoloration	Excoriation at site of inoculation	Snorer	Tuberculosis in pharyngeal and mediastinal and on right pleura
23	7	7	7	7	8	14	Negative	Positive swelling	Negative	Positive, typical swelling and discoloration	No reaction at 48th hour	Small lesion of tuberculosis in mesenteric gland
24	8	9	19	8	14	19	Negative	Positive	Positive, swelling and typical discoloration	Positive, less marked	—	Pharyngeal portal and mesenteric glands affected
25	9		14	10	Pain 18	Pain 18	Positive	Positive	Positive	Positive	Positive all sites at 96th hour	Lesions of tuberculosis in lung substance and in bronchial and mediastinal glands

TABLE—*continued*

Reference No. of Cow	Avian Tuberculin			Mammalian Tuberculin			Caudal Fold		Vulva		Observation	*Post-mortem* Examination
	Time of Injection	48th Hour	96th Hour	Time of Injection	48th Hour	96th Hour	48th Hour	96th Hour	48th Hour	96th Hour		
26	8	8	8	9	10	Pain 14	Negative	Negative	Swelling and congestion	Slight fullness and redness	Vulva reaction slight	Old calcified lesion in mesenteric, also one pinpoint-sized yellowish lesion
27	7	12	18	7	Pain 16	Pain 16	Positive	Positive	Positive	Positive	Good reactions all sites	Lesions of tuberculosis in lung substance and in pharyngeal, bronchial, mediastinal and mesenteric glands
28	8	8	8	9	10	10	Negative	Negative	Negative	Negative	All sites negative	No evidence of tuberculosis
29	8	11	12	8	Pain 18	Pain 18	Positive	Positive	Positive	Positive	Both neck sites painful	Extensive generalised tuberculosis
30	8	9	16	9	11	Pain 18	Negative	Positive	Negative	Positive	Reactions only came up 96th hour	Calcareous superficial lesion in one mesenteric gland
31	8	8	10	8	9	12	Negative	Slight thickness	Positive	Positive	No diffusion and no pain in mammalian neck site	Lesions of tuberculosis in both lungs, both pharyngeal and in bronchial and mediastinal glands
32	10	11	11	11	12	18	Negative	Positive	Negative	Typical discoloration and swelling	No reactions at 48th hour	Small old calcareous lesion in post mediastinal gland, also young pin-point lesion in same
33	7	14	14	7	Pain 22	Pain 26	Positive	Positive	Positive	Positive	Black cow with black vulva and so discoloration masked	Lesions of tuberculosis in bronchial and mediastinal glands
34	8	12	16	8	Pain 14	14	Slight thickening	Thickening insufficient to call positive	Typical discoloration and swelling	Positive	Very poor reaction in caudal fold	Lesions of tuberculosis in pharyngeal and bronchial lymphatic glands
35	12	14	22	10	Pain 20	22	Negative	Positive	Positive	Positive	Delayed caudal fold reaction	Lesions of tuberculosis in bronchial and mediastinal lymphatic glands
36	9	10	13	9	13	11	Negative	Negative	Very slight swelling and congestion	Negative	—	Pin-point-sized lesion found in mesenteric glands. Smears and sections negative
37	9	9	14	10	10	10	Negative	Negative	Negative	Negative	Avian reactor	Pin-point lesions in mesenteric glands, also granular calcareous lesion in mesenteric glands. Smears and sections negative
38	8	8	12	8	8	9	Negative	Negative	Negative	Negative	Avian reactor	Minute specks in mesenteric glands. Smears and sections negative
39	8	11	14	8	13	13	Positive. Big swelling	Positive. Big swelling	Positive, swelling and tumefaction	Same as 48th hour	Black cow with black vulva	Small lesion of tuberculosis in bronchial and mediastinal glands
40	8	8	16	8	10	20	Negative	Positive	Negative	Positive. Poor reactor, slight induration, slight swelling and congestion	—	Three small specks in mesenteric glands. Smears and sections negative
41	9	9	14	9	9	9	Negative	Negative	Negative	Negative	Avian reactor	No evidence of tuberculosis
42	8	8	8	8	9	9	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
43	9	15	19	9	19	22	Positive	Positive	Positive. Typical discoloration. Swelling and induration	Positive, same as 48th hour, discoloration less	Reactor in all four sites	Lesions of tuberculosis in posterior mediastinal glands
44	6	6	6	6	7	7	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
45	10	12	11	10	11	11	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
46	10	11	14	9	10	9	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
47	10	11	16	8	10	12	Negative	Negative	Negative	Negative	No diffusion and no pain in mammalian neck site	No evidence of tuberculosis
48	8	8	8	9	9	9	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis
49	8	12	15	8	22	18	Big positive swelling	Same as 48th hour	Big induration swelling, discoloration not marked	Big swelling, induration less marked	Snorer	Extensive generalised tuberculosis
50	9	12	14	9	12	12	Negative	Negative	Negative	Negative	—	No evidence of tuberculosis

Dates of Testing: Cows 1 to 4, April 20th to 24th, 1944. Cows 5 to 8, April 27th to May 1st, 1944. Cows 9 to 12, May 4th to 8th, 1944. Cows 13 to 14, May 11th to 15th, 1944. Cows 15 to 19, May 18th to 22nd, 1944. Cows 20 to 24, May 25th to 29th, 1944. Cows 36 to 40, June 15th to 19th, 1944. Cows 41 to 44, June 22nd to 26th, 1944. Cows 45 to 50, June 29th to July 3rd, 1944.

There are comparatively few breeds of dogs in this country that have not suffered as a result of attempts to change their architecture—we presume, to excite the fancy of spectators at shows. In a measure, breeders have succeeded in producing objects of art, the images of which serve admirably for the adornment of the pages of fashion magazines and to attract the attention of readers in advertisements, but the penalty sustained by the victims of those who are responsible hardly warrants the artistic accomplishment.—*North American Veterinarian.*

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Kimball and Frank, of Kansas State College, isolated *Actinomycosis bovis* of the "smooth" type from 40 out of 55 cases of poll evil and fistulous withers that had not been tampered with. The specimens were taken from the bursae of these regions. Culture mediums and cultural methods described and techniques pursued were approved by the Research Council of the American Veterinary Medical Association. A review of the literature indicated that this is the first reported association of *A. bovis* with these common diseases of horses.—*Amer. J. vet. Res.*, January, 1945.

HILL CATTLE POLICY

It is recognised that a return of cattle stocks to the hills is essential if we are to improve progressively the herbage on upland grazings. Mr. A. R. Wannop told the (hill farming) conference at Inverness that the deterioration existing to-day is not so much caused by loss of fertility as an insidious change in the herbage due to lack of mixed grazing. He put his finger on the need to-day when he emphasised that recovery in hill farming is necessarily a long-term policy. You cannot expect cattle stocks to be restored in the requisite numbers unless owners have confidence to introduce breeding herds. That confidence will come only if a long-term programme is adopted.

This year's hill cattle scheme makes commendable distinction in terms of subsidy between cow stocks and other cattle, but the scheme is still capable of real improvement. What is needed is not a cattle subsidy, which may or may not be offered each year, and which is thus possibly subject to lapsing, but a long-term hill-cattle policy upon which hill farmers can rely.—*Farming News.*

CLINICAL COMMUNICATION

Surgical Removal of a Bullet from the Lung of a Dog

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ROYAL VETERINARY COLLEGE

This case is thought worth recording because of its several interesting features and comparative rarity.

Subject.—An adult Alsatian dog in good condition with the history of accidental shooting with a ·22 rifle.

Clinical Examination.—This indicated that the bullet had entered the upper and inner aspect of the left thigh from behind, emerged at the medial anterior aspect, and passed into the trunk at the groin. The alignment of the skin wounds suggested lodgement in the left abdomen or thorax. X-ray examination laterally and ventro-dorsally revealed the presence of a foreign body in the left lung at the middle of and against the third rib (see plate). The dog was kept under observation for two days. Neither fever nor severe constitutional consequences were in evidence during this time.

Operative Procedure.—Under deep nembutal anaesthesia, the thorax was opened with a two-inch incision at the second intercostal space, over the site indicated by the lateral radiograph. Pneumo-thorax and total collapse of the lung resulted with, after a few seconds, severe dyspnoea and cyanosis of the visible mucous membranes. The free administration, however, of oxygen by mask from a cylinder resulted in rapid and maintained improvement both in the respiration and the appearance of the mucous membranes. The anterior lobe of the lung was then grasped and by forceps drawn through the chest incision when the bullet was readily palpable immediately below the pleura and removed through a small incision. The lobe was then returned to the chest. Owing to the presumed importance of the time factor no attempt was made to close the incision in the lung.

The thoracic wound was sutured as rapidly as possible, incorporating pleura and intercostal muscles; followed by the latissimus dorsi and fascia; and finally the skin. Throughout the operation the thoracic opening was occluded with a moist swab whenever possible.

Post-operative Treatment.—The administration of oxygen was continued for two hours, as its withdrawal led to polypnoea and cyanosis. Cheyne-Stokes breathing was exhibited during this period. A free injection of oxygen subcutaneously amounting to about 600 c.c. was also made and Coramine (Nikethamide) injected intra-muscularly with advantage to the pulse.

While oxygen was made available there was no indication of a serious respiratory burden, therefore no attempt was made to reduce pneumothorax by aspiration, particularly as haemorrhage might thereby have been produced.

Sequelae.—The dog made an uninterrupted recovery. A pressure pad was applied over the operation site at the second day as there was a suspicion of subcutaneous emphysema. This is a measure obviously to be advocated post-operatively with due regard to the freedom of respiration.

DISCUSSION

It is remarkable that no serious damage was sustained by the abdominal viscera during the passage of the bullet. It seems probable that the liver was traversed and certainly the diaphragm. The immediate post-operative symptoms may correspond to those designated "pleural shock" in pneumothorax in man.

Doubtless the gravitational pressure of the heart and collapsed left lung on the already functionally impaired right lung aggravated the respiratory situation. Probably the dorsal position is indicated in such surgical interference.

The lung has remarkable powers of arresting haemorrhage, due, it is suggested, to the recoil of its elastic fibres and, perhaps, as has been stated, its very high thrombokinase content.

According to Norris and Landis, the damage done to the lungs in the passage of projectiles is commonly not discernible even at autopsy as early as three to four days after the injury.

According to Dukes, who quotes Snyder: "In the dog unilateral pneumothorax is impossible because of the free permeability of the mediastinum to air (and fluid). Changes of intrapleural pressure on one side are immediately followed by corresponding changes on the other side. Bilateral pneumothorax therefore follows opening of the chest of the dog on one side. Evidently in intrathoracic operations in the dog, except perhaps experimental operations of very brief duration, artificial respiration by tracheal insufflation of air would be necessary."

Further, according to Markovitch on pneumothorax in the dog . . . "even a small puncture of one pleural cavity . . . will cause fatal collapse of both lungs. . . . The dog has only one chest and surgery of the thorax can only be performed under positive pressure ventilation through the trachea."

These conclusions are, to some extent, upheld by this case. At the same time, it is illustrated that, with appropriate precautions in robust dogs, intra-thoracic surgery of short duration may be undertaken with some hope of success.

REFERENCES

DUKES. "Physiology of the Domestic Animals."

NORRIS and LANDIS. "Diseases of the Chest and Principles of Physical Diagnosis."

MARKOVITCH. "Textbook of Experimental Surgery."

Questions and Answers

"Questions and Answers" will be published on alternate weeks.

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Abortion in Sows

Q. XCV.—*Three or four cases of abortion have recently occurred in a herd of pedigree pigs. Is the condition likely to be infectious and what control measures should be adopted?*

A.—If abortions are encountered in sows the existence of swine fever should be suspected and further evidence sought to confirm or negative this suspicion. If satisfied as to the absence of the virus, then other possible causes may be considered as under.

Firstly, any febrile conditions may be responsible for abortions.

Further, although in Britain abortion in pigs due to *Brucella abortus suis* is exceedingly rare, to eliminate the possibility of that type of infection existing, a sample of blood from the sows should be sent to a laboratory for agglutination test. Pigs are resistant to *B. abortus bovis*. No other common specific cause for abortion in sows has been recorded in Britain and since the condition has not been considered of sufficient importance, no serious investigation into porcine abortions has been carried out in this country. The practitioner has therefore to rely on the result of his own enquiries to arrive at a possible cause. A variety of causes have been suggested, e.g., lack of protein, deficiency of certain vitamins, especially vitamins A, C and E, deficiency of certain minerals, especially calcium and iodine and finally infections of the uterus by organisms such as Salmonella, streptococci and tubercle bacilli. Injury is unlikely to be the cause of a number of abortions in sows on the same farm.

The question of abortion in sows is closely allied to that of still births in which condition the same causes operate. In general, therefore, so far as our knowledge goes, abortion may be secondary to a specific disease, or be associated with the management and feeding of the animals.

"Hookworm" in Dogs

Q. XCVI.—*On two occasions this year I have come across dogs whose malady has been diagnosed as due to "hookworm." In my college days, we were taught that there was no hookworm in the British Isles. In a fairly extensive canine practice, I have not come across the worm. Will someone inform me whether the worm exists in these Islands, its appearance, how its presence may be diagnosed, the symptoms it produces, and what methods may be adopted to free the patient?*

A.—Three species of hookworms occur in dogs. They are *Ancylostoma braziliense* de Faria, 1910, *Ancylostoma caninum* Ercolani, 1859, and *Uncinaria* (or *Dochmoides*) *stenocephala* (Railliet, 1884). The first species is more or less confined to tropical countries in its distribution; the second species has a rather wider distribution in sub-tropical and tropical countries and may be found in southern Canada and the Union of South Africa. The third species is found in temperate countries and largely replaces the other two species in these areas. *Uncinaria* occurs in Europe, including the British Isles, New Zealand, the colder parts of the United States of America and Canada as far north as the edge of the Arctic Circle. In the British Isles, *Uncinaria* occurs in dogs and foxes and is probably the only hookworm of carnivores indigenous to these islands. Both species of *Ancylostoma* appear to be absent from Britain and the occasional record of their occurrence in this country probably applies to specimens recovered from carnivores in zoological collections or from dogs imported from the tropics and sub-tropics.

G. C. Knight, E. O. Longley and S. W. Douglas :
Surgical Removal of a Bullet from the Lung of a Dog

Uncinaria stenocephala is a stoutish bursate nematode. The male measures 5-8·5 mm. long and 0·2 mm. wide and the female measures 7-12 mm. long and 0·25 mm. wide. It lives in the small intestine of its host and possesses a mouth capsule, without leaf-crowns. The mouth opening is guarded by two semi-lunar ventral cutting plates and the front end of the worm is bent dorsally. The presence of this hookworm may be diagnosed by faecal examination. *Uncinaria* eggs are typical strongyle eggs, being oval, thin-shelled, colourless, and containing a partly segmented ovum when freshly passed. They measure 82μ by 47μ and are unlikely to be confused with the eggs of other helminths occurring in dogs in this country. Since it has been shown experimentally that prenatal infection with hookworms can occur, it is thus possible for eggs of these parasites to appear in the faeces of puppies about a fortnight old. Animals of all ages are, however, affected and hookworm disease, as a general rule, is not of frequent occurrence in very young pups.

Hookworm infection in puppies and young dogs gives rise to a condition sometimes known as "kennel anaemia." In the early stages of infection there may be digestive disturbances and diarrhoea in which the faeces are streaked with blood. In severe infections the diarrhoea may be severe. The chief symptom is anaemia, accompanied by hydraemia, sometimes oedemas, general weakness and emaciation. Infected puppies rapidly lose weight, the eyes are sunken, and there may be marked symptoms of depression. Growth is stunted and the coat becomes dry and harsh. Sometimes no marked symptoms appear until two or three days before death. In the later stages of the disease the blood changes may include eosinophilia. The symptoms of hookworm infection are largely due to the irritation of the small intestine caused by the bites of the parasites, to their removal of blood, and to the bleeding that follows the bites. It has been shown that hookworm anaemia is of the type associated with chronic haemorrhage rather than of the type due to some toxin secreted by the worms. Uncinariasis appears to occur mainly in summer, particularly in animals kept in confined areas such as dogs in kennels and foxes in runs. In susceptible animals the disease may be acute and rapidly fatal whereas other animals develop a degree of resistance to the effects of infection, but this may be broken down by adverse conditions or by an intercurrent disease.

The following drugs have been recommended for the removal of hookworms: Carbon tetrachloride or tetrachlorethylene, each given at the rate of 0·3 c.c. per kilogram body weight. These drugs should be administered with the usual precautions. Encouraging results from the use of normal butyl chloride have recently been reported from the United States of America. The schedule of suggested dosages is as follows:—

Amount of N butyl chloride	*Weight of Dog (pounds)*
0·5 c.c. (8 minims)	Less than 3
1 c.c. (15 minims)	3 to 5
2 c.c. (½ fluid dram)	5 to 10
3 c.c. (¾ fluid dram)	10 to 20
4 c.c. (1 fluid dram)	20 to 40
5 c.c. (1¼ fluid dram)	More than 40

As in most helminthic infections, treatment alone is insufficient to eliminate hookworm disease and the necessary control measures must also be adopted. The ground on which animals are kept should be as dry as possible because it is known that the pre-infective larvae of hookworms are not resistant to drying. Faeces should be removed at short intervals and other measures of strict sanitation carried out. Hookworm infected soil may be sterilised by the use of strong salt brine. The brine can be made by stirring 1½ lb. salt into a gallon boiling water and then sprinkled over the soil surface to saturate the earth to a depth of ½ to 1½ inches. About 1 pint of brine for each square foot of soil surface is necessary to accomplish this.

PENICILLIN IN ANTHRAX

The success attained in the treatment of human cases of cutaneous anthrax with penicillin at the Pennsylvania Hospital for Contagious Diseases is of interest in veterinary medicine. Although the characteristic and almost universal bacteraemia of anthrax in animals was absent, the rapid disappearance of the specific agent (*Bacillus anthracis*) from the local lesion established its sensitivity to the microbicidal action of the drug. The study also revealed the strange contrast that in vitro *B. anthracis* was 100 times more resistant to penicillin than *Staphylococcus aureus*. In three cases favourable response to penicillin was evoked from the injection of 100,000 to 475,000 units. At least a total of 200,000 to 400,000 units of penicillin, given at the rate of 100,000 units in 24 hours, should be administered to the average adult to obtain prompt and satisfactory therapeutic response.—*J. Amer. med. Ass.*, quoted by *Veterinary Science Newsletter*.

Royal College of Veterinary Surgeons

Annual General Meeting

The one hundred and second annual general meeting of the Royal College of Veterinary Surgeons was held at 10, Red Lion Square, London, W.C.1, on Tuesday, June 5th, 1945, at 12 noon, Captain T. M. Mitchell, President, being in the chair. There were also present: Professor T. J. Bosworth, Mr. Esmond Brown, Mr. W. Brown, Professor J. B. Buxton, Mr. P. Crosfield, Mr. T. Dalling, Mr. H. W. Dawes, Dr. J. T. Edwards, Mr. A. Fulton, Mr. R. E. Glover, Mr. G. N. Gould, Dr. Tom Hare, Mr. T. Lishman, Mr. J. A. Laing, Mr. J. W. McIntosh, Mr. G. P. Male, Major A. B. Mattinson, Professor W. C. Miller, Professor W. M. Mitchell, Capt. S. J. Motton, Mr. W. Nairn, Mr. J. O. Powley, Capt. J. W. Procter, Major L. P. Pugh, Lt.-Col. G. Rees-Mogg, Mr. J. N. Ritchie, Dr. J. Share Jones, Lt.-Col. P. J. Simpson, Mr. J. M. Smith, Brigadier J. J. M. Soutar, Mr. A. Spicer, Mr. H. W. Steele-Bodger, Capt. W. K. Townson, Mr. J. F. D. Tutt, Professor G. H. Wooldridge and Dr. W. R. Wooldridge.

The Registrar read the notice convening the meeting.

The minutes of the previous annual general meeting were read by the Registrar and were confirmed and signed.

The Registrar reported that apologies for absence had been received from the following members of Council: Mr. A. A. Donnelly, Mr. J. Holroyd, Professor W. Kearney and Mr. H. Sumner.

Council Election: Auditor's Report

The Registrar read the report of the auditors on the scrutiny of voting papers for the election of Council. This showed the voting to have been as follows:—

Name	*Votes*	*Names*	*Votes*
Dawes, H. W. ...	1,050	Burrow, H.	573
Dalling, T.	990	Stableforth, A. W. ...	568
Glover, R. E. ...	848	Rabagliati, D. S. ...	563
Motton, S. J. ...	820	Hancock, R. C. G. ...	554
Mitchell, W. M. ...	749	Gordon, W. S. ...	551
McKinna, W. R. ...	741	Dunlop, I. J. ...	543
Brown, Esmond ...	737	Gillmor, H.	536
Beckett, F.	730	Dunn, H. Scott ...	469
Peele, J. D.	707	Hill, J. Campbell ...	446
Hicks, T.	610	Joshua, Miss J. O. ...	429
Montgomerie, R. F. ...	588	Everett, Mrs. B. L. ...	217

The report added that the number of voting papers received was 1,925, which included 25 spoiled papers.

The President: Following upon the Auditors' Report on scrutiny of the voting papers I have to declare the following gentlemen elected to the Council:—

Mr. H. W. Dawes, Professor T. Dalling, Mr. R. E. Glover, Mr. S. J. Motton, Professor W. M. Mitchell, Mr. W. R. McKinna, Mr. Esmond Brown and Mr. F. Beckett.

Report from the Returning Officer of Eire

The Registrar read the report, stating that Mr. L. N. Gleeson, of Stradbally, Co. Waterford, had been elected as General Elected Member for a period of four years commencing May 31st, 1945.

The President: I declare Mr. Gleeson to be a member of this Council.

Annual Report and Statement of Accounts

The President: We now have to receive and consider the annual report and statement of accounts, a copy of which you have before you. I think it is usual to take the report page by page.

Pages 3 to 9 were received without discussion.

Page 10:

Mr. McIntosh: You will notice, on the pages dealing with finance, that this is the first occasion upon which there has been an adverse balance. That has been due to the heavy expenses involved in regard to the P.D.S.A. Bill. Apart from that I think you will find that the financial position is very sound.

I should like to take this opportunity of expressing our appreciation of the valuable services rendered by our staff during these very anxious years. Dr. Bullock and his staff have been very hard worked, but they have carried out their work and have done a very good job. I should like to express our appreciation to Dr. Bullock for his excellent and ungrudging services during these anxious times.

The President: As I am not an expert in finance I propose to draw your attention to the whole of the annual report and if you have any comments to make about the accounts they can be made now.

The Registrar: I have to mention a small error on page 10 of the annual report. In the second line of the paragraph at the bottom of the page you will see the words "Cash at Bank at 31st March,

1944." The date should, of course, be "1945." That is the only error which I have noticed.

Mr. Townson: I move the adoption of the annual report and statement of accounts.

Mr. Simpson: I second that.

The annual report and statement of accounts were adopted.

Votes of Thanks

Mr. Nairn: Before we conclude these proceedings I am sure you would wish to record a very hearty vote of thanks to our President. This year has been a difficult one and he has carried out his duties very successfully. I therefore ask you to accord him a very hearty vote of thanks.

The vote of thanks was accorded with acclamation.

The President: Thank you for that expression of thanks. I feel that I cannot let that expression pass without making one or two remarks. First of all I want to thank my colleagues on the Council for the extraordinarily sympathetic support which they have given me. It has been a year fraught with pitfalls, but thanks to the guidance of the Registrar and to the sympathetic support of the members of Council I seem to have negotiated those pitfalls fairly well. That has been due to no virtue of mine, but rather to the work done by the Council and to the loyal co-operation of its members.

I should like, in addition, to pay a special tribute to the Registrar for the extremely kind and efficient way in which he has directed the wandering footsteps of an embryo President. Without him I am afraid that I should have foundered. When you consider that he has carried out the onerous work of this Council in the extremely difficult conditions which obtained during the past year—enemy activity and so on—I think you will understand the strain to which he has been subjected. In addition, he has suffered from an extreme paucity of staff—a state of affairs which we hope will soon be rectified. I feel that it would be the wish of the Council to accord Dr. Bullock a special vote of thanks.

The vote of thanks was accorded with acclamation.

The Registrar: Thank you very much.

Dr. Edwards: I should like to express, on behalf of the rank and file of the veterinary profession, our gratitude to the President and the whole body of the Council for their labours on our behalf during the past year. The eyes of the profession have been upon you and you have had to deal with a number of important problems. You have dealt with them wisely and in a spirit of good will. Such problems as those of the P.D.S.A. Bill and unregistered practice are grave problems. Still graver problems may be in front of you.

Coupled with this expression of gratitude I should like to express our thanks to all those who have offered themselves as candidates for election. This election has been an unprecedented one. We have had as many as 22 candidates and the field for selection has been increasing in regard to ability and talent. If all have not been elected it is not because the profession disparages the abilities of the unsuccessful candidates. In the result we have now a Council which displays a sense of power, and what is more important, a sense of balance. You will be able to look at your problems from different angles and thus you will be able to see all round them. It has been said that a characteristic of the British people is their ability to solve their problems in a practical way. In our politics we fight hard and cleanly.

In the coming year we look forward to the Council advancing, and in advancing you will be consolidating the ground you have already won, and in the consolidation of that ground you will yield up nothing to anyone. The rank and file of the profession, therefore, expects every counsellor on this body to do his duty during the coming year.

The President: I think you may be assured that the members gathered in this Council room will try to do their duty during the coming year.

The annual general meeting of the Royal College then terminated and a general meeting of members of the Victoria Veterinary Benevolent Fund, the proceedings of which will be reported in an early issue, followed immediately.

Weekly Wisdom

"It is necessary to challenge the dangerous doctrine that rational discussion increases the danger of conflict and to insist that if peace, here as elsewhere, depended on understanding, then the facts must be dragged into the light. . . ."—Sir Norman Angell.

* * * * *

Lord Glentanar has been appointed chairman of the Scottish Stock Health and Pasture Improvement Association, whose objects include obtaining hill land suitable for experiments.

Meeting of Council, R.C.V.S.

Election of Major A. B. Mattinson as President

A meeting of the Council was held at 10, Red Lion Square, London, W.C.1, on Wednesday, June 6th, 1945. There were present: Mr. T. M. Mitchell (President) in the chair, Professor T. J. Bosworth, Mr. E. Brown, Professors J. B. Buxton, T. Dalling, Messrs. R. E. Glover, G. N. Gould, Dr. Tom Hare, Mr. J. W. McIntosh, Professors W. C. Miller, W. M. Mitchell, Captain S. J. Motton, Mr. W. Nairn, Captain J. W. Procter, Major L. P. Pugh, Lt.-Col. P. J. Simpson, Messrs. A. Spicer, H. W. Steele-Bodger, Major H. Sumner, Captain W. K. Townson, Mr. J. F. D. Tutt and Dr. W. R. Wooldridge.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Report of the Selection Committee

Election of President

The following report of the meeting of the Selection Committee held on April 11th was submitted:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Nomination of President.—It was resolved, "That Mr. A. B. Mattinson be nominated for election as President for the ensuing year."

Nomination of Vice-President.—It was resolved, "That Mr. H. W. Dawes be nominated for election as junior Vice-President for the ensuing year."

Mr. Tutt asked whether it was open to members to make a separate nomination.

The President: Yes, certainly.

Mr. Tutt: Then I beg to submit the name of Mr. T. M. Mitchell for re-election as President. I do so on the grounds that we are at the moment engaged on most important negotiations with the Ministry of Agriculture and the universities and that it is always undesirable to swop horses while crossing the stream.

Mr. G. N. Gould seconded the motion.

Mr. Male: As a member of the Selection Committee I beg to move the election of Major Mattinson as President of the College for the ensuing year. Major Mattinson is a very distinguished man, having had considerable experience both in the Army and in practice and in teaching. He has devoted much time to the duties of this Council, and he has carried them out ably and conscientiously, and I have much pleasure in nominating Major Mattinson for President.

Mr. McIntosh: I should like to support the nomination of Major Mattinson. I need not say anything more than what Mr. Male has said. I have long been consistently opposed to a President holding office for more than one year. I think it is only right that every member should have the right and opportunity to occupy that chair, and for that reason alone I second the nomination of Major Mattinson, though I do so with some regret because I agree that our present President has carried out his duties in a most satisfactory manner.

Mr. G. N. Gould: I have no bias whatever against Major Mattinson, but I, in common with every member of Council, am very deeply conscious of the responsibility of this Council to the profession. I understand that a very important conference is to take place in the near future. You are quite aware of the difficulties of the situation and of the diverse opinions that exist, but they all tend to one point, that is the future welfare of this profession. I think that we have arrived at a very critical phase when it is essential that there should be continuity of office. I second Mr. Mitchell's nomination.

Mr. Nairn: If there is to be a vote may I suggest that the vote shall be by ballot.

The President: Are there any other nominations?

It was agreed that the Solicitor and Secretary should be scrutineers and on the ballot being taken it was found to be in favour of Major Mattinson.

Mr. Mitchell: I have pleasure in declaring that Major Mattinson is duly elected President of the College for the ensuing year.

Mr. Nairn moved that the best thanks of the Council be accorded to Mr. Mitchell for his valuable services as President during his year of office. This was seconded in several places and carried with acclamation.

Mr. Mitchell: Thank you, gentlemen. I should like to add that I have really enjoyed my year's work as President, and the enjoyment of the work has been made all the greater because I have been able to count on the loyal co-operation of every member of this body, whether they agreed with me or not. Quite frankly, I am loath to leave the office, for once one has spent a year in the inner counsels and in the direction of the work of this College one is somewhat disappointed when just when you have got into your

stride you have to give up the work. However, I hand over the running of the office to Major Mattinson all the more willingly because I feel that the work of this College will assist him to overcome the natural pangs of sorrow which he is bound to suffer and will give him something which will absorb his mind rather than brood over his own sorrow. (Hear, hear.)

ELECTION OF OTHER OFFICERS

Vice-Presidents.—It was resolved, "That Mr. T. M. Mitchell and Mr. H. W. Dawes be elected Vice-Presidents of the College for the ensuing year."

Treasurer.—It was unanimously resolved, "That Mr. J. W. McIntosh be reappointed Treasurer of the College for the ensuing year."

Secretary and Registrar.—It was unanimously resolved, "That Dr. Fred Bullock be re-elected Secretary and Registrar of the College for the ensuing year."

[We shall have pleasure in publishing, in an early issue, a biographical appreciation of the newly elected President of the Royal College, Major Arthur Bowman Mattinson.—*Editor.*]

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examinations, July, 1945

LIST OF SUCCESSFUL CANDIDATES

(*Continued from page* 350)

Liverpool

FIRST YEAR:

Cole-Powney, J. H. M. — Roberts, Miss E. G.
Jones, J. G. (B)

(B) denotes credit in Biology.

SECOND YEAR:

Allcock, James (H) — Morris, John
Clark, W. A. — Morten, D. H. (H)
Field, A. C. (H) — Myerscough, S. F.
Gee, Miss B. G. (P) — Pink, C. E.
Greasley, John (H) — Scarnell, John (P)
Griffiths, Laurence — Sinclair, K. B.
Hill, K. J. (P) — Watkins, I. M. (P)

(P) denotes credit in Physiology, etc.
(H) denotes credit in Histology, etc.

THIRD YEAR:

Barker, I. R. (A) (H) — Lees, Miss P. (A)
Curtis, P. E. — Llewellyn, D. G. (H)
Davies, E. T. (A) — Murch, Oliver (A) (H)
Fletcher, J. T. — Shepherd, Edward
Haigh, B. — *Walley, J. K.
Hignett, P. G. (A) (H) — Williams, C. P.
*Holmes, J. R.

* denotes 2nd Class Honours.
(A) denotes credit in Anatomy.
(H) denotes credit in Hygiene.

FOURTH YEAR:

Haining, Mrs. R. V. — Penny, R. H. C.
Obertelli, J. M. — Scarisbrick, R.
Ockey, J. H. — Wilkinson, G. T. (Path)

(Path) denotes credit in Pathology.

FINAL YEAR:

Alun-Jones, W. S. — Hughes, A. L.
Ash, Miss D. M. M. S. J. — Hewitt, S. L.
Davison, Mrs. A. M. — Hull, P. N.
Duckett, A. L. — Smith, A. N.
Egginton, Miss D. N. — Wynne, I. M.
Hall, C. A.

Edinburgh (*Continued*)

FIRST YEAR:

Anstruther, Miss J. D. — McKenzie, R. L. (C)
*Ashworth, G. H. S. — Malone, G. S. R.
Baker, F. C. (C) — Mitchell, K. S.
*Brooks, C. R. — Munro, I. G. (C)
*Brown, C. W. — Nixon, Keith
*Burns, K. N. — Pratt, Wm. (C)
Craig, W. A. — Reid, G. M.
Davidson, Ian — Seamer, J. H. (C)
Drake, J. N. (C) — Shepherd, A. G.
Finlay, R. A. — Stirling, L. R.
*Fowler, B. N. — *Sutherland, Miss C. A.
Geddes, Wm. (C) — Taylor, J. B. D.
†Hayes, G. E. — Thorneycroft, A. B.
*Jones, Roger — *Walker, J. D.
Loxam, J. G. — Wilson, Wm.
McFarlane, D. F. (C) — Wright, Charles

† denotes 1st Class Honours.
* denotes 2nd Class Honours.
(C) denotes credit in Chemistry.

(*To be concluded.*)

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Aug. 8th.—Meeting of the Editorial Committee, N.V.M.A., 36, Gordon Square, 2.30 p.m.
Sept. 15th.—Applications due for Miss Cust Research Scholarship.
Sept. 19th.—R.C.V.S. Committee Meetings.
Sept. 20th.—R.C.V.S. Committee Meetings.
Sept. 21st.—**R.C.V.S. Council Meetings.**
Sept. 25th.—**N.V.M.A. Council and Committee Meetings.**
Sept. 26th.—**In connection with N.V.M.A. Annual Meeting—Paper: "Achievements of the Army Veterinary and Remount Services during the War" (Morning).**
N.V.M.A. Annual Luncheon, Connaught Rooms, W.C.2, 1.15 p.m.
President's Reception, Dorchester Hotel, Park Lane, W.1, 8.30 p.m.
Sept. 27th.—**Paper: "War-time Achievements of the Colonial Veterinary Service" (Morning).**
Annual General Meeting, N.V.M.A., The Grand Hall, Royal Veterinary College, N.W.1, 2 p.m.
Sept. 28th.—**N.V.M.A. Council Meeting, 10 a.m.**

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ANNUAL GENERAL MEETING, N.V.M.A.

As intimated in recent issues, various meetings, including the Annual General Meeting, are to be held in London from September 25th to 28th (inclusive). In addition, a luncheon is now being arranged at the Connaught Rooms, Great Queen Street, Kingsway, W.C.2, on Wednesday, September 26th, at 1.15 p.m. Further particulars will be announced later.

Members who intend to be present at the meetings are again advised to make their arrangements well in advance. Messrs. Thos. Cook & Son, Ltd., Berkeley Street, London, W.1, have agreed to help in the booking of hotel accommodation and can also issue, at advertised fares, any travel tickets required.

Members who desire to take advantage of their services are urged to obtain further information from the General Secretary, N.V.M.A., 36, Gordon Square, London, W.C.1, without delay.

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PERSONAL

Mr. E. P. Edwards gravely ill.—As we go to press we have received the sad news, transmitted by Mr. Steele-Bodger with a depth of regret that our readers will share, of the critical illness of Mr. E. P. Edwards, of Prestatyn, N. Wales. A fortnight ago Mr. Edwards had an acute attack of pleurisy and his condition has now taken a very serious turn. It will be an additional source of sorrow to their many friends in the profession that the health of Mrs. Edwards also gives rise to much anxiety.

Marriages.—EDWARDS—THOMAS.—On July 6th, 1945, at Cymau, Nr. Wrexham, Clifford M. Edwards, B.V.SC., M.R.C.V.S., Veterinary Department, University College, Bangor, N. Wales, to Nesta Thomas, Bryntêg, Cymau, Nr. Wrexham, late of 16, Amberley Street, Princes Park, Liverpool.

SHAW—COUPERTHWAITE.—At East Church, Strathaven, on July 18th, 1945, Alexander Shaw, M.R.C.V.S., New Cumnock, Ayrshire, to Hilda Couperthwaite, Swiss Cottage, Strathaven.

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R.C.V.S. OBITUARY

HACKETT, William, Donington, Spalding, Lincs. Graduated Edinburgh, April 19th, 1883. Mr. Hackett, who had practised in the district for 58 years, died on July 11th, 1945.

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GENERAL OBITUARY

MR. GEORGE LAMBTON

In the death of the Hon. George Lambton, recently recorded, the loss is mourned of one who authoritatively has been described as a man who knew more about the thoroughbred than any living. For over 65 years, as amateur rider, owner and trainer, he had been intimately connected with the Turf, had known the great riders and horses of the eighties and nineties, had laid the foundations of the two greatest studs of this century, and himself had trained the horses of the House of Stanley, with a short break of five years, from 1893 to 1933. The great racehorses that passed through Lambton's hands include two Derby winners, three St. Leger winners, four winners of the 1,000 Guineas, and one of the 2,000 Guineas. Mr. Lambton laid the Turf under his debt for the courageous and successful fight he made against the practice of doping, which in the early years of this century had reached the proportions of a scandal.

POST-GRADUATE COURSE AT EDINBURGH

We are glad to note that a short refresher course, dealing mainly with the prevention and control of disease, is to be held at the Royal (Dick) Veterinary College from October 1st to 5th, inclusive. The advances in the field covered by the course and the need for such tuition expressed by those who have found the circumstances of war a grave handicap in keeping themselves up to date, should ensure a wide response. Those interested should write for details without delay to the Secretary, Summerhall, Edinburgh, 9.

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Irish University Degrees in Veterinary Science

For some time past negotiations have been in progress between the Department of Agriculture (the Governing Body of the Royal Veterinary College of Ireland) and representatives of the National University of Ireland and of Dublin University (Trinity College) for the establishment of Degrees in Veterinary Science. Negotiations with Trinity College have now been completed, and although those with the National University have not reached finality, it is hoped that these will also be completed in the near future.

In view of the degree of importance currently attaching to the subject of veterinary education in its relation to the universities, we publish below copies of statements concerning the degrees which the Principal of the Dublin College is sending to prospective students of the College, which will be of interest to members of the profession not only in Ireland but elsewhere. In a covering letter it is made clear to the recipients that courses for the University degrees will be additional to the ordinary veterinary course for the M.R.C.V.S. diploma and will be entirely voluntary. In forwarding these statements, Principal Browne writes: "It may be noted that the course for the primary degree of B.Vet.Sc. in the National University will consist of the present subjects of the veterinary curriculum in an extended form and that the matriculation examination for this University includes Irish as an obligatory subject. It may also be noted that the course for the primary degrees of B.A. and B.Sc. (Vet.) in Trinity College does not include vocational subjects (only the M.Sc., D.Sc. and Ph.D. courses include veterinary subjects). However, this might not be a disadvantage as a broader basic education in the subjects stated must in the long run reflect to the benefit of our profession from many points of view."

Degree in Veterinary Science in the National University of Ireland

Negotiations are at present in progress with the authorities of University College, Dublin (a constituent College of the National University of Ireland) for an arrangement which will enable students of the Veterinary College of Ireland to obtain a degree in Veterinary Science, B.Vet.Sc., in the National University of Ireland. Details of this scheme have not yet been decided upon, but the course will be run concurrently with the veterinary course and will consist of the present subjects of the veterinary curriculum in an extended form. The candidate must have passed the matriculation examination of the National University of Ireland or an examination which is accepted in lieu thereof, and one of the conditions in connection with the course will be that the student must take the first year science degree course, including Botany, Zoology, Chemistry and Physics, in the University College of Dublin, Cork or Galway, and should he pass the examinations in these subjects, he will, on application to the Royal College of Veterinary Surgeons, be exempted from the first year of the Veterinary curriculum (except Junior Anatomy). Such a student will be required to take the whole course of Anatomy (Junior and Senior) at the Veterinary College in his second year.

Candidates who intend to take this course and who are on the waiting list for admission to the Veterinary College for the session 1945-46 are advised to take the first year science course, including the subjects mentioned above, in one of the constituent Colleges of the National University (Dublin, Cork or Galway).

Regulations for Degrees in Veterinary Science in Dublin University (Trinity College) for Students of the Veterinary College of Ireland

As the result of a recent arrangement between the Veterinary College of Ireland and Trinity College, Dublin, students of the Veterinary College may, if they so desire, pursue a course in Trinity College concurrently with their veterinary curriculum at the Veterinary College of Ireland, leading to the degrees of Bachelor of Arts, B.A., and Bachelor of Veterinary Science, B.Sc. (Vet.).

A student who wishes to obtain these degrees must enter Trinity College by one of the recognised methods, such as the ordinary Entrance Examination or a certificate exempting him from this examination or by a Junior Exhibition, and he must pay an entrance (certificate) fee of £15. Furthermore, he must enter under a tutor. Such a student, after matriculation, will have rights and privileges similar to, or identical with, those granted to medical students in Trinity College (eligibility for scholarships, college societies, library facilities, possibility of holding living-in rooms, consideration for assistance given to needy students, etc.).

The course in Trinity College will include Mathematics, English and two other languages, Logic, Psychology and any one of the following: Astronomy, Ethics, Economics and Political Science (see Regulations of School of Physic, Trinity College).

During his first (Junior Freshman) year the student will attend lectures in Trinity College in Chemistry, Physics, Botany, Zoology, and Arts subjects as prescribed for intending medical students, and on passing the prescribed examinations in Chemistry, Physics, Botany and Zoology, he will, on application to the Royal College of Veterinary Surgeons, be exempted from the first year veterinary course (with the exception of Junior Anatomy) and will then be eligible to commence work at the Veterinary College as a second year student. Such a student will be required to take the whole course of Anatomy (Junior and Senior) at the Veterinary College in his second year.

During the next three years of his course (Senior Freshman and Sophister years) he will, provided he is certified by the Principal of the Veterinary College to be making satisfactory progress in his veterinary curriculum, receive professional privileges in his Arts course in Trinity College, both as regards lectures and examinations, similar to, or identical with, those granted to medical students in that University (see Regulations of the School of Physic, Trinity College). During this three-year period he will attend lectures in Arts in Trinity College for one hour a day in the Spring (Hilary) term of each year. After the student has passed his four Arts examinations in Trinity College, he will have the degree of B.A. conferred upon him provided he has passed his fourth professional examination in the Veterinary course at the Veterinary College. If he is a brilliant student he may prefer to take the ordinary final Arts (B.A.) examination in full instead of the privileged examination; alternatively he may present himself for a Moderatorship examination in certain veterinary subjects. A student who wishes thus to acquire an honours B.A. degree will probably find it necessary to interrupt his course for one year for this purpose.

A student who has obtained his B.A. degree will, without further examination, have the B.Sc. (Vet.) degree conferred upon him after he has obtained his M.R.C.V.S. diploma.

The total fees payable to Trinity College for this course are:—

	£	s.	d.
Entrance Examination fee	1	0	0
Entrance (Certificate) fee	15	0	0
Eight half-yearly fees of 13 gns. each	109	4	0
Laboratory fee, payable in first year	5	5	0
B.A. degree fee	3	0	0
B.Sc. (Vet.) degree fee	2	0	0
Total ...	£135	9	0

It will be observed that the above fees cover the first year of the veterinary course inasmuch as the student will be granted exemption from that year (except Junior Anatomy) and will thus commence his veterinary curriculum at the Veterinary College as a second year student. He will thus be relieved of the first year fees, including examination fees, of the veterinary course amounting to a total of £32 6s. Such a student, however, will be liable for an exemption fee of £4 4s., so that his net saving on fees for the veterinary curriculum will be £28 2s. The total extra expenditure involved, therefore, in taking the above course in Trinity College as compared with the ordinary veterinary course will be £107 7s.

The holder of the M.R.C.V.S. diploma who has obtained the degrees of B.A. and B.Sc. (Vet.) may, if he so desires, proceed to the higher degrees of M.Sc., Ph.D., and D.Sc., provided the Principal of the Veterinary College certifies that he has reached a sufficiently high standard in his veterinary curriculum and that his conduct and work have been satisfactory. The M.Sc. and Ph.D. degrees will be conferred for theses on veterinary research work of sufficiently high merit, carried out under the supervision of the staff of the Veterinary College. The research work for the M.Sc. degree will extend over a minimum period of one year and that for the Ph.D. degree over two years, the candidate devoting his whole time to the work. The tuition fees for the M.Sc. course will be 24 guineas and those for the Ph.D. course will be 48 guineas. In addition, registration, examination and degree fees amounting to £22 12s. for the M.Sc. and £24 14s. for the Ph.D. will be payable.

A past graduate of the Veterinary College of Ireland or a student who has entered this College previous to 1945 may be accepted as a candidate for the M.Sc., Ph.D. or D.Sc. degree provided the Principal of the Veterinary College certifies that he has reached a sufficiently high standard in his professional work and that his conduct and character have been satisfactory.

The D.Sc. degree will be conferred on the holder of a B.A. or B.Sc. (Vet.) degree of not less than three years standing for distinguished published work on veterinary research, but no specified course will be necessary. The total fees for this degree will amount to £35.

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VETERINARY SCIENCE: STATUS IN BRITISH UNIVERSITIES

Dr. J. Share Jones, formerly Director of Veterinary Education in the University of Liverpool, writes as follows in a letter recently published in *The Times*:—

"For over 40 years veterinary science has been an integral part of the work of a British university (Liverpool), where the students have enjoyed, in common with others, such general educational advantages as the university offers. It is, therefore, incorrect to assume that in advocating university education the Loveday Committee is making a new proposal.

"But the status given to veterinary science within the university is another matter and has a more direct bearing upon the science and the staff than upon the students. Whatever reason is given, veterinary science is not placed in Britain on a plane of equality with other divisions of learning. The conception of its magnitude and importance in this country falls far short of that held in such countries as Switzerland, where Berne University placed it on a plane of equality with arts, law, medicine, etc., with fruitful results that are well known, and setting an example that other countries are endeavouring to emulate.

"The Loveday Committee has been taken severely to task for its 'want of decision' when making its recommendations on university veterinary education to Government. The Committee visited Berne and failed to take sufficient note of its pioneer work in the creation of the first veterinary faculty. It appears to confuse the statutory body constituting the faculty with the buildings.

"To me the inadequate conception in Britain of agriculture as a whole and of its divisions has been its greatest drawback, and a full faculty status as the remedy, in horticulture and forestry, veterinary science and animal husbandry, and in agriculture, or perhaps more correctly here, agronomy, has been proposed by myself repeatedly since 1912, before departmental committees, and in 1916 before a Royal Commission. It is pleasing, therefore, to observe the present trend towards the acceptance of this view. The Vice-Chancellor of the University of Belfast, on April 26th, offered publicly to the profession 'full faculty status,' and at Oxford, where the subjects of agriculture and forestry have long been included, it is now proposed to give them a faculty. As claimed by *Nature*: 'By administering and teaching in a full veterinary faculty the veterinarian would, moreover, be in the best position to introduce effectively into the university those new problems and new spheres of work which could be such valuable additions to university studies. This contribution which veterinarians can bring to the universities is too easily overlooked. It has a very real national importance and no university can afford to neglect it.' (*Nature*, Vol. 154—page 127.)

"The solution lies in the creation of a faculty, and of departments in at least the five basic subjects of veterinary anatomy, animal husbandry, veterinary pathology, veterinary medicine, and veterinary surgery, each under the holder of an endowed chair with a vote on senate, the place that really matters. It is only by affording him this security of tenure and freedom of action that the head of any department, who is required to carry responsibility, can secure full development of his subject. This applies with equal force in veterinary subjects as in those included in old-established faculties. In the latter this point is fully understood."

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ADDRESSES OF DISEASE-INFECTED PREMISES

Swine Fever:

Cumberland.—Watch Close, Irthington, Carlisle (July 17th); Campfield Farm, Bowness-on-Solway, Carlisle (July 19th); Scalegate Road Piggeries, Carlisle (July 20th).

Dumfriesshire.—Ellerslie, Powfoot, Cummertrees, Annan (July 20th).

Hunts.—West End Farm, Fenstanton (July 21st).

Lincs.—22, Withington Street, Sutton Bridge, Holbeach (July 17th).

Middlesex.—10, Smallholdings, Clock House Lane, Ashfield (July 19th); 128, Willow Tree Lane, Yeading Lane, Hayes (July 21st).

Oxon.—Warneford Hospital, Headington, Oxford; Church Street, Old Headington, Oxford (July 20th).

Suffolk.—8, Queen Street, Walton, Felixstowe (July 19th).

Yorks.—Sink Hall Farm, Crockley Hill, York (July 19th).

Sheep Scab:

Yorks.—Blandsgill, Howgill, Sedbergh (July 13th).

UNRRA AND THE REHABILITATION OF EUROPEAN AGRICULTURE

The importance of an early improvement in the food situation in Europe is stressed by the inclusion of an Agricultural Rehabilitation Officer in every UNRRA Mission to the Continent. Missions have been at work for some time in Greece and have more recently entered Jugoslavia and Czechoslovakia. A Mission is also preparing to leave for Poland. A special observer has been sent, at the request of the Dutch Government, to Holland.

The first Council meeting of UNRRA charged the Administration with the duty of assisting Governments in liberated areas in providing the supplies and service needed to enable farmers to sow and harvest essential crops, maintain dairy herds, and rehabilitate farms. To this end the Administration may help in re-establishing experimental stations and essential agricultural institutions organisations and services. The rehabilitation of fisheries is also within the scope of UNRRA's activities.

The assistance of UNRRA has already been requested for the re-equipment of veterinary laboratories in Czechoslovakia, Jugoslavia and Poland, and of the Marine Biological Institute in Greece. UNRRA is also pressing for immediate facilities to be granted to the International Office of Epizootics in Paris for the resumption of its valuable work in collecting and disseminating information on the occurrence and spread of epizootic disease and in general on animal health and the means of preserving it.

One of the duties of these Agricultural Officers is to enquire into the state of agricultural scientific and technical research in the country to which they are accredited, and to suggest where a study of results already obtained in the free world, or possibly the visit of a British or American specialist, might help in the solution of local problems.

* * * * *

ATTESTED HERDS SCHEME

"Attested herd owners who had hoped that the Ministry of Agriculture would shortly declare a number of areas closed to 'flying herds,' where there is a high percentage of attested herds, are likely to be disappointed until the end of the Japanese war," states *The Farmers' Weekly* in a recent issue, and continues: "It had been hoped that it would soon be possible to proceed with the 'closed area' plan, but the Ministry of Agriculture has decided that, as conditions are at present, it is not feasible to do so immediately. Shortage of veterinary surgeons and difficulty in getting the necessary equipment including building material, has made it impossible to fix any definite boundary as visualised under the 1937 Agriculture Act.

"Negotiations with the National Farmers' Union and other interested bodies have been opened by the Ministry on a number of important points covering the scheme. Suggestions have already been considered for attracting farmers into the scheme—there is already the extra 4d. per gallon for the T.T. man—and it is possible that something may be done. The question of compensation and whether a slaughter policy of reactors should be followed is also likely to be the subject of important discussion in the near future. The Ministry were given the power to enforce slaughter under the Agriculture Bill, 1937. One problem is the tendency to make it too easy for the man who—when the area is declared closed—is forced to go attested. If this should happen, the tendency would be for farmers in prospective areas to sit and wait without helping themselves. On the other hand, it is not intended to penalise any producer and adequate compensation will have to be agreed.

"Fortunately, although concentration on the drive for attestation had to be slackened on the outbreak of war, no ground has been lost, and the number of attested animals is as great as in 1939. At the present the Ministry are working hard with the resources available to encourage farmers to go attested, especially in those places where it is hoped to enforce the first closed areas."

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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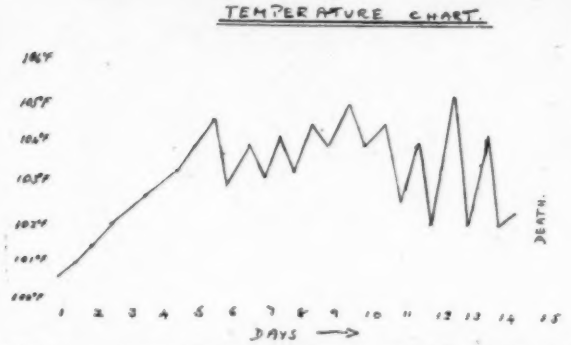
ECHINOCOCCOSIS

Sir,—Mr. E. F. McCleery's letter in *The Veterinary Record* dated April 28th prompts me to record a case that I was able to observe before and after death.

The subject was a beautiful grey "Berad" bullock, aged 12 years and in fat condition.

He was admitted to the Military Veterinary Hospital, Ahmednagar, on August 3rd, 1944. When examined the temperature was 100·6. Respirations were of the forced expiratory type. There was an absence of sound on the right side of the thorax.



The above temperature chart shows how the disease progressed from the first day up to the time of death on the fifteenth day. The symptoms were similarly progressive. A bloodstained nasal discharge developed and anorexia became complete. On the fourteenth day a jugular pulse and sternal oedema developed.

The case was diagnosed on the first day as bronchitis. Good nursing, including the intravenous administration of glucose saline, was the only line of treatment adopted.

On *post-mortem* examination it was found that the lungs, liver and spleen were heavily infested with echinococcus cysts. There seemed to be hardly any normal tissue remaining. The cysts were unusually regular in size, being on the average 6 cms. in diameter. Apart from generalised oedema no other lesions were present.

In this country the discovery of echinococcus cysts during meat inspection is regarded as the normal thing and it is surprising what an amount of infestation is revealed when a perfectly healthy beast is slaughtered.

In the above recorded case, however, I think there can be no doubt as to the cause of the disease. I have never before encountered such a heavy infestation and never on any previous occasion have I seen a single echinococcus cyst in the spleen. A study of the case history also reveals the almost acute nature of the disease. Could the term septicaemia be accurately applied in this case?

Yours faithfully,

155th Ind. Infantry Brigade, India Command. ERIC PIERSON, Capt. R.A.V.C.

June 16th, 1945.

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TECHNICAL ASSISTANTS

Sir,—References are made from time to time, in articles, discussions, letters, etc., to the need for technical assistance in veterinary laboratories envisaged under proposed plans for the future, or already functioning at different centres at home and abroad. A recent reference of this kind occurs in the report[1] of the address entitled "Specialisation" given by Professor Boddie to the Scottish Metropolitan Division at their Annual Meeting at Edinburgh on April 4th, 1945. Dealing with the possibilities of Veterinary Investigation Departments as centres for specialist work, Professor Boddie says "Detailed composition of the staff may vary somewhat. . . . I submit that it should consist of not less than four professional men *with adequate technical assistants*." No other reference of any kind is made throughout the report to technical assistants and no guidance is offered as to the standards of efficiency, training, status, or the source of the technical assistants required; nor indeed has any other authority offered any suggestion.

As a technician engaged on veterinary laboratory work, and one who has, in the past, worked for a number of years in a Veterinary Investigation Department, I should like to make a few observations on this question.

Already the expansion of veterinary laboratory services calls for an increased number of technicians, and will call for even more in the years following this war. It is doubtful if, at the present moment, even 50 technicians could be found in the whole country, with the necessary experience and training to fit them for senior posts in veterinary laboratories. These are, naturally, already employed, and no worthwhile addition to this number can be envisaged by the release of men from the Forces. No attempt, as far as I am aware, is being or has been made to see that trained technicians are available (apart from the efforts of technicians themselves) and no great incentive is offered to those who are capable and interested. Furthermore, in the years preceding this war the position of most laboratory technicians left a great deal to be desired; this applies particularly to the Veterinary Investigation Departments.

The present sources from which personnel are likely to be recruited are:—

(*a*) Juniors already working in veterinary laboratories.

(*b*) Technicians holding subordinate posts in medical laboratories.

As already indicated (*a*) is unlikely to be a fruitful source. Furthermore, an increasing number of girls are working in laboratories, many of whom are not concerned with continuity of service in the years to come.

(*b*) is a source from which men have already been drawn; medical technicians who have a good deal of experience, but to whom a senior post in a veterinary laboratory represents a more rapid means of promotion than is available in their own sphere are attracted. It must, I think, be conceded that in most cases medical technicians are well fitted by training and inclination to take up veterinary work, but they will not be familiar with its special needs and problems. Moreover, in medical science more and more technicians are being and will be needed so that the number of men available from that source can only be very small.

It is pertinent at this stage to refer to the organisation developed by both medical and veterinary technicians and now known as the Institute of Medical Laboratory Technology. This Institute admits technicians working in approved medical and veterinary laboratories, requires a good educational standard for entrance of the student membership and qualifying examinations are held which have to be taken after a specified period of laboratory experience. Both an Associateship and a Fellowship are conferred by examination and thesis, the Institute is well recognised by the medical profession, and represents the only standard upon which a technician can be judged, apart from the individual record of work and personal knowledge.

In the address by Professor Boddie already quoted it is stated also that the four professional men he mentions should be "a clinical pathologist, a chemist, a parasitologist, and the equivalent of a gynaecologist . . . the clinical pathologist would in most cases require to be as much a bacteriologist as a pathologist, though in some centres there might be both a pathologist and a bacteriologist. In order that the clinical pathologist may have an adequate background, his training after graduation consists of a period in general practice, *followed by the necessary training in laboratory technique*" (italics mine). It is equally true that the technical staff should be composed of men who have had the necessary training, so that the pathologist is not wasting time and effort which should be utilised in his wider sphere, and in the integration of his own action with that of his colleagues and with agriculturalists in general.

I think it is clear that there is a need for some recognition of the part which can be, and, indeed, is played by technical assistants, not only adequate, but loyal and necessary workers, whose status need never be in question, whose training, aptitude and abilities should be of a high standard, and whose remuneration must be commensurate with the value of the part they play in their own particular sphere.

The problem of adequate training of laboratory technicians is obviously one of urgent importance to the veterinary profession.

Yours faithfully,

"Highweek," Moor Lane, Wilmslow, Cheshire. R. W. WHITE.

July 16th, 1945.

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A MACQUEEN "LEG PULL"?

Sir,—I was very interested to read Dr. McCunn's remarks in your report of the Central meeting, and to learn that my father started as a coffin maker in Glasgow.

In his autobiography, which he commenced shortly before his death, my father stated that he was born on his father's farm at Strathaven in Lanarkshire, and helped him there as a boy; he then went as a pupil to John Meikle at Newcastle-on-Tyne, later on going to Colorado for health reasons.

He never worked in Glasgow until he came to the Glasgow Veterinary College direct from Denver in 1875.

I can just imagine how skilfully he pulled Dr. McCunn's leg, ascribing his dexterity with a knife to his former work as a coffin maker, and it is very amusing to read Dr. McCunn's giving this out, years later, as a fact.

Yours faithfully,

252, Camden Road, London, N.W.1. J. M. MACQUEEN.

July 18th, 1945.

By the end of the European war 80 per cent. of all the units in the British and Imperial Armies were fully mechanised, whereas with Germany this figure was a mere 15 per cent. I think it is the first time these figures have been disclosed. Now we know why, once the German armour had been pierced and the three great hard battles at Caen, the Ardennes, and on the Rhine had been fought, there was little to stop us except partly mechanised units with, incredible as it may seem to us, horsedrawn field artillery.—SIR WILLIAM ROOTES.

[1] *Vet. Rec.* (1945.) **57**. No. 25. 303-304.